Darshan UNIVERSITY

योग: कर्मसु कौशलम्

Python Programming - 2101CS405

Lab - 1

01) WAP to print “Hello World”

In [1]:

```
print("Hello World")
```

```
Hello World
```

02) WAP to print your address i) using single print ii) using multiple print

In [3]:

```
print("Morbi \nGujarat \nIndia")
print("Morbi")
print("Gujarat")
print("India")
```

```
Morbi
Gujarat
India
Morbi
Gujarat
India
```

03) WAP to print addition of 2 numbers (without input function)

In [4]:

```
a=30
b=50
c=a+b
print(c)
```

```
80
```

04) WAP to calculate and print average of 2 numbers (without input function)

In [5]:

```
a=70
b=40
c=(a+b)/2
print(c)
```

```
55.0
```

05) WAP to add two number entered by user.

In [11]:

```
num1=int(input("Enter number 1 for Addition"))
num2=int(input("Enter number 2 for Addition"))
ans=num1+num2
print("Addition of two number is:",ans)
```

```
Enter number 1 for Addition20
Enter number 2 for Addition30
Addition of two number is: 50
```

06) WAP to calculate simple interest.

In [14]:

```
p=int(input("Enter Value of money"))
r=float(input("Enter Intrest rate"))
n=float(input("Enter Time in year"))
intrest=(p*r*n)/100
print("Interest is:",intrest)
```

```
Enter Value of money100000
Enter Intrest rate1.5
Enter Time in year2
Interest is: 3000.0
```

07) WAP Calculate Area and Circumfrence of Circle

In [20]:

```
import math
red=float(input("Enter value of radious"))
circumfrence=round(2*math.pi*red,2)
area=round(math.pi*math.pow(red,2),2)
print("Area of circle is:",area,"\nCircumfrence of circle is:",circumfrence)
```

```
Enter value of radious4
Area of circle is: 50.27
Circumfrence of circle is: 25.13
```

08) WAP to print Multiplication table of given number without using loops.

In [23]:

```
num=int(input("Enter number for Multiplication table"))
print(num,"x",1,"=",num*1)
print(num,"x",2,"=",num*2)
print(num,"x",3,"=",num*3)
print(num,"x",4,"=",num*4)
print(num,"x",5,"=",num*5)
print(num,"x",6,"=",num*6)
print(num,"x",7,"=",num*7)
print(num,"x",8,"=",num*8)
print(num,"x",9,"=",num*9)
print(num,"x",10,"=",num*10)
```

```
Enter number for Multiplication table5
5 x 1 = 5
5 x 2 = 10
5 x 3 = 15
5 x 4 = 20
5 x 5 = 25
```

```
5 x 6 = 30
5 x 7 = 35
5 x 8 = 40
5 x 9 = 45
5 x 10 = 50
```

09) WAP to calculate Area of Triangle (hint: a = h*b* 0.5)

In [26]:

```
height=float(input("Enter length of height"))
base=float(input("Enter length of base"))
area=round(height*base*0.5,2)
print("Area of triangle is:",area)
```

```
Enter length of height20
Enter length of base20.5555
Area of triangle is: 205.55
```

10) WAP to convert degree to Fahrenheit and vice versa.

In [31]:

```
c=float(input("Enter temperature in celsius"))
f=round((c*(9/5))+32,2)
print("Temperature in Fahrenheit is:",f)

f=float(input("Enter temperature in Fahrenheit"))
c=round(((f-32)*5)/9,2)
print("Temperature in celsius is:",c)
```

```
Enter temperature in celsius12
Temperature in Fahrenheit is: 53.6
Enter temperature in Fahrenheit98.6
Temperature in celsius is: 37.0
```

11) WAP to calculate total marks and Percentage.

In [35]:

```
math=int(input("Enter mark of Mathematics"))
eng=int(input("Enter mark of English"))
che=int(input("Enter mark of Chemistry"))
phy=int(input("Enter mark of Physics"))
com=int(input("Enter mark of Computer"))
total=math+eng+che+phy+com
per=float(total/5)
print("Total of 5 subject is:",total,"\nPercentrage of 5 subject is:",per)
```

```
Enter mark of Mathematics33
Enter mark of English45
Enter mark of Chemistry69
Enter mark of Physics45
Enter mark of Computer25
Total of 5 subject is: 217
Percentrage of 5 subject is: 43.4
```

12) Compute distance between two points taking input from the user (Pythagorean Theorem).

In [5]:

```
import math
x1=int(input("Enter x1 point"))
y1=int(input("Enter y1 point"))
x2=int(input("Enter x2 point"))
```

```
y2=int(input("Enter y2 point"))
ans=math.sqrt(pow((x2-x1),2)+pow((y2-y1),2))
print("Distance Between two point is:",round(ans,2))
```

```
Enter x1 point5
Enter y1 point5
Enter x2 point3
Enter y2 point3
Distance Between two point is: 2.83
```

13) WAP to convert seconds into hours, minutes & seconds and print in HH:MM:SS

[e.g. 10000 seconds mean 2:46:40 (2 Hours, 46 Minutes, 40Seconds)]

In [8]:

```
time=int(input("Enter time in Second"))
hour=int(time/3600)
time=time-(hour*3600)
minute=int(time/60)
time=time-(minute*60)
print(hour,":",minute,":",time)
```

```
Enter time in Second1000
0 : 16 : 40
```

14) WAP to enter distance into kilometer and convert it into meter, feet,inches, and centimeter

In [11]:

```
km=int(input("Enter distance in kilometer"))
meter=km*1000
feet=km*3280.84
inches=km*39370.1
centimeter=km*100000
print("Meter:",meter,"\nFeet",feet,"\nInches",inches,"\nCentimeter",centimeter)
```

```
Enter distance in kilometer520
Meter: 520000
Feet 1706036.8
Inches 20472452.0
Centimeter 52000000
```

In [ ]:

```

```

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Python Programming - 2101CS405

Lab - 2

if..else..

01) WAP to check whether the given number is positive or negative.

In [8]:

```
num=float(input("Enter number For check number is positive or negative"))
if num>=0:
    print("Number is Positive")

else:
    print("Number is Negative")
```

```
Enter number For check number is positive or negative-0.0000001
Number is Negative
```

02) WAP to check whether the given number is odd or even

In [13]:

```
num=int(input("Enter number for ckeck Odd or Even"))
if num%2==0:
    print("Number is even")
else:
    print("Number is odd")
```

```
Enter number for ckeck Odd or Even0
Number is even
```

03) WAP to find out largest number from given two numbers using simple if and ternary operator.

In [24]:

```
num1=int(input("Enter number 1:"))
num2=int(input("Enter number 2:"))
ans=print("Number 1 is largest") if num1>num2 else print("Number 2 is largest") if num2>
num1 else print("Number is Equal")
```

```
Enter number 1:10
Enter number 2:10
Number is Equal
```

04) WAP to find out largest number from given three numbers.

In [27]:

```
num1=int(input("Enter number 1:"))
num2=int(input("Enter number 2:"))
num3=int(input("Enter number 3:"))
if num1>num2:
    if num1>num3:
        print("Number 1 is Largest")
    else:
        print("Number 3 is largest")
else:
    if num2>num3:
        print("Number 2 is largest")
    else:
        print("Number 3 is largest")
```

```
Enter number 1:20
Enter number 2:30
Enter number 3:90
Number 3 is largest
```

05) WAP to check whether the given year is leap year or not.

[If a year can be divisible by 4 but not divisible by 100 then it is leap year but if it is divisible by 400 then it is leap year]

In [40]:

```
year=int(input("Enter year to check leap year or not:"))
if (year%400==0 and year%100==0):
    print("{0} is leap year".format(year))
elif (year%4==0 and year%100!=0):
    print("{0} is leap year".format(year))
else:
    print("{0} is not leap year".format(year))
```

```
Enter year to check leap year or not:2000
2000 is leap year
```

06) WAP in python to display the name of the day according to the number given by the user

In [51]:

```
days =["Sunday" ,"Monday", "Tuesday", "Wednesday", "Thursday", "Friday", "Saturday"]

num = int(input("Enter Day (from 1-7)"))

if (num>=1 and num<=7):
    print(days[num-1])
else:
    print("Your input is not valid")
```

```
Enter Day (from 1-7)7
Saturday
```

07) WAP to implement simple calculator which performs (add,sub,mul,div) of two no. based on user input.

In [63]:

```
num1=float(input("Enter number 1:"))
num2=float(input("Enter number 2:"))
print("+ Addition \n- Subtraction\n* Multiplication \n/ Division")
```

```
choice=input("Enter Choice")
if choice=="+":
    print("Ans is:",num1+num2)
elif choice=="-":
    print("Ans is:",num1-num2)
elif choice=="*":
    print("Ans is:",num1*num2)
elif choice=="/":
    print("Ans is:",round(num1/num2,2))
else:
    print("Invalid Choice")
```

```
Enter number 1:10
Enter number 2:30
+ Addition
- Subtraction
* Multiplication
/ Division
Enter Choice/
Ans is: 0.33
```

08) WAP to calculate electricity bill based on following criteria. Which takes the unit from the user.

a. First 1 to 50 units – Rs. 2.60/unit</br> b. Next 50 to 100 units – Rs. 3.25/unit</br> c. Next 100 to 200 units – Rs. 5.26/unit</br> d. above 200 units – Rs. 8.45/unit

In [85]:

```
unit=int(input("Enter number of unit"))
if (unit>=0 and unit<=50):
    print("Electricity Bill is :",unit*2.60)
elif (unit>50 and unit<=100):
    print("Electricity Bill is :",unit*3.25)
elif (unit>100 and unit<=200):
    print("Electricity Bill is :",unit*5.26)
elif unit>200:
    print("Electricity Bill is :",unit*8.45)
else:
    print("Bill can not negative")
```

```
Enter number of unit0
Electricity Bill is : 0.0
```

01) WAP to read marks of five subjects. Calculate percentage and print class accordingly.

Fail below 35 </br> Pass Class between 35 to 45 </br> Second Class</br> between 45 to 60</br> First Class between 60 to 70</br> Distinction if more than 70

In [113]:

```
marks = []
subject=["Math","English","Chemistry","Physics","Computer"]
total=0
for x in range(5):
    marks.append(input("Enter mark of {}".format(subject[x])))
    total=total+int(marks[x])

per=total/5
if per<35:
    print("Student is Failed")
elif (per>=35 and per<45):
    print("Student is passed with Pass Class and get {}%".format(per))
elif (per>=45 and per<60):
    print("Student is passed with Second Class and get {}%".format(per))
elif (per>=60 and per<70):
    print("Student is passed with First Class and get {}%".format(per))
```

```
elif (per>=70):
    print("Student is passed with Distinction Class and get {}%".format(per))
else:
    print("Percentage is not come more than 100%")
```

```
Enter mark of Math66
Enter mark of English66
Enter mark of Chemistry66
Enter mark of Physics66
Enter mark of Computer66
Student is passed with First Class and get 66.0%
```

02) WAP to find out the Maximum and Minimum number from given 4 numbers.

In [21]:

```
number = []
flag=True
for x in range(4):
    number.append(input("Enter number {}:".format(x+1)))
for x in number:
    for y in number:
        if x<y:
            flag=False
            break
    if flag==True:
        print("Number {} is largest".format(number.index(x)+1))
        break
    else:
        flag=True
```

```
Enter number 1:56
Enter number 2:78
Enter number 3:90
Enter number 4:45
Number 3 is largest
```

03) WAP to input an integer number and check the last digit of number is even or odd.

In [36]:

```
num=int(input("Enter Integer number"))
rem=int(num%10)
if rem%2==0:
    print("Last digit of number is Even")
else:
    print("Last digit of number is Odd")
```

```
Enter Integer number0000000
Last digit of number is Even
```

04) WAP to determine the roots of the equation ax2+bx+c=0.

In [46]:

```
import math
print("Equation is ax2+bx+c=0")
a=int(input("Enter a:"))
b=int(input("Enter b:"))
c=int(input("Enter c:"))
if a==0:
    print("Input correct quadratic equation")
else:
    d=(b*b)-(4*a*c)
    sqrt_value=math.sqrt(abs(d))

    if d>0:
        print("real and  different roots")
```

```
        print("x =",round((-b + sqrt_value)/(2 * a),6))
        print("x =",round((-b - sqrt_value)/(2 * a),6))
    elif d==0:
        print("real and same roots")
        print("x =",round(-b / (2 * a)))
    else:
        print("Complex Roots")
        print("x =",round(-b / (2 * a),6),"+i",round(sqrt_value/(2 * a),5))
        print("x =",round(-b / (2 * a),6),"-i",round(sqrt_value/(2 * a),5))
```

```
Equation is ax2+bx+c=0
Enter a:6
Enter b:8
Enter c:15
Complex Roots
x = -0.666667 +i 1.43372
x = -0.666667 -i 1.43372
```

In [ ]:

```
```